

ABSTRACT OF THE DISCLOSURE

The present invention is directed to a system and method for multiplication of matrices in a vector processing system. Partial products are obtained by dot multiplication of vector registers containing multiple copies of elements of a first

5 matrix and vector registers containing values from rows of a second matrix. The
dot products obtained from this dot multiplication are subsequently added to vector
registers which make up a product matrix. In an embodiment of the present
invention, each matrix may be divided into submatrices to facilitate the rapid and
efficient multiplication of large matrices, which is done in parts by computing
10 partial products of each submatrix. The matrix multiplication performed by the
present invention avoids rounding errors as it is bit-by-bit compatible with
conventional matrix multiplication methods.